REMARKS

Upon entry of this Response, claims 1-20 remain pending in the present application. Applicant respectfully requests reconsideration of the pending claims in view of the following remarks.

In item 2 of the Office Action, claims 1-20 have been rejected under 35 U.S.C. §102(b) as being anticipated by Zeng, Gamut Mapping in Multiple Color Spaces, 25-28 January 2000, (hereafter "Zeng"). Anticipation under §102 "requires the disclosure in a single prior art reference of each element of the claim under construction. W.L. Gore & Associates, Inc. v. Garlock, Inc., 220 USPQ 303, 313 (Fed. Cir. 1983). Applicant asserts that Zeng fails to show or suggest each element of claims 1-20. Accordingly, for the reasons that follow, Applicant requests that the rejection of claims 1-20 be withdrawn.

In particular, claim 1 states:

> 1. A method for color processing, comprising the steps of:
> defining a composite color space in a memory of a computer system, the composite color space having a number of color space portions and a number of transition portions between adjacent ones of the color space portions; and
> converting an input color space representation of a color into a composite color space representation of the color in the computer system.

With respect to claim 1, the Office Action states:

> "Zeng discloses a method for color processing (page 301, abstract), comprising the steps of: defining a composite color space (page 305, Fig 4) in a memory of a computer system, the composite color space having a number of color space portions (Fig 4, B region, G region, and R region) and a number of transition portions (Fig 4, B region, G region, and R region) between adjacent ones of the color space portions; and converting (paragraph bridging page 302-303) an input color space representation of a color (gamut mapping from monitor display) into a composite color space representation (page 305, Fig 4) of the color in the computer system." (Office Action, page 2).

Applicant respectfully disagrees. Specifically, Zeng does not show or suggest converting an input color space representation of a color into a composite color space representation of the color as set forth in claim 1. Rather, the input color space representation is converted into multiple device-independent color spaces, not a single composite color space.

Accordingly, Applicant requests that the rejection of claim 1 and the rejection of claims 7, 13, and 17 as including subject matter similar in scope with claim 1 be withdrawn. In addition, Applicant requests that the rejection of claims 2-6, 8-12, 14-16, and 18-20 be withdrawn as depending from claims 1, 7, 13, and 17, respectively.

In addition, with respect to claim 2, the Office Action states:

> "Zeng discloses in section 2, on page 302, the method further comprising the step of gamut mapping the color in the composite color space to obtain a representation of the color in the composite color space that is reproducible by an output device." (Office Action, page 2).

Applicant respectfully disagrees. Specifically, Zeng discloses gamut mapping colors in multiple color spaces rather than gamut mapping in a single composite color space. For example, at the end of paragraph 2 in section 2, Zeng states:

> "Inventing a new color space to fix the blue shift problem could solve the blue problem. However, it may come out other problems. A new approach is to use more than one color space for gamut mapping. This allows us to apply a special color space for gamut mapping in the blue region only, and to keep gamut mapping in the non-blue region unchanged."

Also, in the final paragraph, Zeng states:

> "Using both CEI L*a*b* and CIE L*u*v* color spaces simultaneously for gamut mapping to solve perceptual-hue shift at blue region is just an example of using multiple color spaces gamut mapping to solve gamut mapping limitation using a single color space. This approach is not limited to using two color spaces, and is also suitable for optimizing perceptual result as well as for color preference mapping."

As described above, gamut mapping of colors is performed in separate color spaces. As set forth in claims 2, 8, 14, and 18, gamut mapping is performed in single composite color space. The gamut mapping function is generally the slowest step in the entire process. As set forth in Zeng, gamut mapping is performed in multiple color spaces whereas, according to the present invention, gamut mapping is performed in a single composite color space. Thus, the present invention provides for faster gamut mapping processing.

Thus, Applicant requests that the rejection of claims 2, 8, 14, and 18 be withdrawn for this additional reason as well as the fact that claims 2, 8, 14, and 18 depend from claims 1, 7, 13, and 17 discussed above.

In item 12 of the Office Action, claims 1-4, 7-10, and 13-20 have been rejected under 35 U.S.C. §102(b) as being anticipated by US Patent 5,583,666

issued to Ellson et al. (Hereafter "Ellson"). Anticipation under §102 "requires the disclosure in a single prior art reference of each element of the claim under construction. W.L. Gore & Associates, Inc. v. Garlock, Inc., 220 USPQ 303, 313 (Fed. Cir. 1983). Applicant asserts that Ellson fails to show or suggest each element of claims 1-4, 7-10, and 13-20. Accordingly, for the reasons that follow, Applicant requests that the rejection of claims 1-4, 7-10, and 13-20 be withdrawn.

With respect to claims 1, 7, 13, and 17, the Office Action states:

> Ellson discloses ... defining a composite color space (Fig 9 and Fig 10) in a memory of a computer system, the composite color space having a number of color space portions (XL7700 not monitor and monitor not XL7700, Fig 9) and a number of transition portions (XL7700 ∩ monitor, Fig 9) between adjacent ones of the color space portions; and converting (col 4, lines 49-64) an input color space representation of a color (monitor RGB) into a composite color space representation (CIELAB, Fig 9 and 10) of the color in the computer system." (Office Action, page 4).

Applicant respectfully disagrees. Specifically, Ellson fails to show or suggest converting an input color space representation of a color into a composite color space representation of the color as set forth in claims 1, 7, 13, and 20. Rather, figures 9 and 10 of Ellson each show two separate color spaces, one from the source device (i.e. CRT) an one from the destination device (i.e. printer). They do not comprise a single composite color space that is device independent. Thus, there is no conversion of an input color space representation of a color into a composite color space representation of the color as claimed. Also, the figures presented on page 5 of the Office Action merely show gamut mapping in the CIE Lab color space alone, not in a composite color space as claimed.

In addition, with respect to claims 2, 8, 14, and 18, the Office Action states:

> "Ellson discloses in Fig 9 and 10 and col. 8, lines 18-50, the method further comprising the step of gamut mapping the color in the composite color space to obtain a representation of the color in the composite color space that is reproducible by an output device." (Office Action, page 2).

Applicant respectfully disagrees. Ellson fails to show or suggest the concept of performing gamut mapping in a single composite color space as set forth in claims 2,

8, 14, and 18. Specifically, there is no single composite color space within which gamut mapping is performed as set forth in claims 2, 8, 14, and 18.

Accordingly, for the above-stated reasons, Applicant requests that the rejection of claims 1-2, 7-8, 13-14, and 17-18 be withdrawn. In addition, Applicant requests that the rejection of claims 3-4, 9-10, 15-16, and 19-20 be withdrawn as depending from claims 1, 7, 13, and 17, respectively.

In item 18 of the Office Action, claims 1-4, 7-10, and 13-20 have been rejected under 35 U.S.C. §102(e) as being anticipated by US Patent 6,532,081 issued to Cecchi et al. (Hereafter "Cecchi"). Anticipation under §102 "requires the disclosure in a single prior art reference of each element of the claim under construction. W.L. Gore & Associates, Inc. v. Garlock, Inc., 220 USPQ 303, 313 (Fed. Cir. 1983). Applicant asserts that Ellson fails to show or suggest each element of claims 1-4, 7-10, and 13-20. Accordingly, for the reasons that follow, Applicant requests that the rejection of claims 1-4, 7-10, and 13-20 be withdrawn.

With respect to claims 1, 7, 13, and 17, the Office Action states:

> Cecchi discloses ... defining a composite color space (Fig 2) in a memory of a computer system, the composite color space having a number of color space portions (ref no 44 and 46) and a number of transition portions (ref no 52, 54, and 56) between adjacent ones of the color space portions; and converting (col 3, line 66) an input color space representation of a color (RGB) into a composite color space representation (Fig 2 and col 5, lines 25-42) of the color in the computer system." (Office Action, page 6).

Applicant respectfully disagrees. Specifically, Cecchi fails to show or suggest set forth in claims 1, 7, 13, and 17. Specifically, Figure 2 of Cecchi discusses multiple gamuts and not a composite color space as claimed. Also, Cecchi fails to show or suggest converting an input color space representation of a color into a composite color space representation of the color as there is not composite color space.

In addition, with respect to claims 2, 8, 14, and 18, the Office Action states:

> "Cecchi discloses in col 6, lines 22-43, the method further comprising the step of gamut mapping the color in the composite color space to obtain a representation of the color in the composite color space that is reproducible by an output device." (Office Action, page 6).

Applicant respectfully disagrees. Cecchi fails to show or suggest the concept of performing gamut mapping in a single composite color space as set forth in claims 2, 8, 14, and 18. Specifically, there is no single composite color space within which gamut mapping is performed as set forth in claims 2, 8, 14, and 18. Rather, Cecchi discussions blending two lookup tables based on CRT gamut information and printer gamut information. The lookup tables are already gamut mapped—there is no composite color space for gamut mapping to create the lookup tables. In this respect, Cecchi does not construct a composite color space from the CRT and printer color spaces.

Accordingly, for the above-stated reasons, Applicant requests that the rejection of claims 1-2, 7-8, 13-14, and 17-18 be withdrawn. In addition, Applicant requests that the rejection of claims 3-4, 9-10, 15-16, and 19-20 be withdrawn as depending from claims 1, 7, 13, and 17, respectively.

In item 24 of the Office Action, claims 1-4, 7-10, and 13-20 have been rejected under 35 U.S.C. §102(e) as being anticipated by US Patent 6,546,132 issued to Bhattacharjya et al. (Hereafter "Bhattacharjya"). Anticipation under §102 "requires the disclosure in a single prior art reference of each element of the claim under construction. W.L. Gore & Associates, Inc. v. Garlock, Inc., 220 USPQ 303, 313 (Fed. Cir. 1983). Applicant asserts that Bhattacharjya fails to show or suggest each element of claims 1-4, 7-10, and 13-20. Accordingly, for the reasons that follow, Applicant requests that the rejection of claims 1-4, 7-10, and 13-20 be withdrawn.

With respect to claims 1, 7, 13, and 17, the Office Action states:

> Bhattacharjya discloses ... defining a composite color space (Fig 4 and col 5, lines 7-24) in a memory of a computer system, the composite color space having a number of color space portions (regions exclusively in text or image region, col 5, lines 11-15, re: C1 and C2) and a number of transition portions (intersections of text region and one or more of the image regions, col 5, lines 16-19, re: C3) between adjacent ones of the color space portions (Fig 4); and converting (paragraph bridging col 4-5) an input color space representation of a color into a composite color space representation of the color in the computer system." (Office Action, page 7).

Applicant respectfully disagrees. Specifically, Bhattacharjya fails to show or suggest set forth in claims 1, 7, 13, and 17. Specifically, Bhattacharjya discusses the blending of two lookup tables (a text LUT and an image LUT).

Bhattacharjya does not show or suggest defining a composite color space, nor does Bhattacharjya show or suggest converting an input color space representation of a color into a composite color space representation of the color as there is not composite color space. The lookup tables discussed in Bhattacharjya are already gamut mapped—there is no need to define a composite color space as claimed.

In addition, with respect to claims 2, 8, 14, and 18, the Office Action states:

> "Bhattacharjya discloses in col 7, lines 22-41, and Fig 5, ref no 42, 44, and 46, the method further comprising the step of gamut mapping the color in the composite color space to obtain a representation of the color in the composite color space that is reproducible by an output device." (Office Action, pages 7-8).

Applicant respectfully disagrees. Bhattacharjya fails to show or suggest the concept of performing gamut mapping in a single composite color space as set forth in claims 2, 8, 14, and 18. The lookup tables described in Bhattacharjya are already gamut mapped—there is no gamut mapping function discussed in Bhattacharjya.

Accordingly, for the above-stated reasons, Applicant requests that the rejection of claims 1-2, 7-8, 13-14, and 17-18 be withdrawn. In addition, Applicant requests that the rejection of claims 3-4, 9-10, 15-16, and 19-20 be withdrawn as depending from claims 1, 7, 13, and 17, respectively.

CONCLUSION

Applicant respectfully requests that all outstanding objections and rejections be withdrawn and that this application and all presently pending claims be allowed to issue. If the Examiner has any questions or comments regarding Applicant's response, the Examiner is encouraged to telephone Applicant's undersigned counsel.

Respectfully submitted,

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